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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,574	08/29/2006	Hendrik Dohle	23387	1571

535 7590 10/10/2008

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EXAMINER	
SUITTE, BRYANT P	

ART UNIT	PAPER NUMBER
1795	

MAIL DATE	DELIVERY MODE
10/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/553,574	DOHLE ET AL.	
	Examiner	Art Unit	
	BRYANT SUITTE	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

CATHODE FOR A DIRECT METHANOL FUEL CELL AND METHOD FOR OPERATING THE SAME

Examiner: Suitte 10/553,574 September 20, 2008

DETAILED ACTION

1. The Applicant's request for reconsideration filed on July 16, 2008 was received. Claims 1 and 2 were cancelled. Claims 4 and 7 were amended. Claims 8 and 9 were added.

2. The text of those sections of Title 35, U.S.C. code not include in this action can be found in the prior Office Action issued on June 17, 2008.

Claim Objections

3. The claim objections on claims 2 and 5 comprising claim informalities has been withdrawn because claim 2 has been cancelled and claim 5 has been amended.

Claim Rejections - 35 USC § 102

4. Claims 3, 4, 8 and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by Kosako et al. (WO 03/081707).

Regarding claims 4 and 8, Kosako discloses an electrolyte membrane electrode assembly for a fuel cell, which comprises an anode, a cathode and an electrolyte, comprising an anode-side catalyst layer (94) and a cathode-side catalyst layer (96) provided on both sides of a polymer electrolyte membrane (91) (opposite face of the cathode away from the anode) which initiates the transport of protons in the fuel cell.

See paragraph 2 and 3. Kosako teaches an anode-side diffusion layer (93) and a cathode-side diffusion layer (95) having electronic conductivity. See paragraph 2 and 3 and see figure 12b. The cathode-side diffusion layer has projections (99) that are directly in contact with the electrolyte membrane. See paragraph 12 and figure 12b. A fuel cell comprises a separator (104 and 105) (free cathode compartment) bonded to the fuel cell. See figure 8 and paragraph 95. A method to operate a low temperature fuel cell is also taught.

Regarding claims 3 and 9, Kosako discloses that the gas diffusion layers comprise carbon paper or carbon cloth (ion conducting and proton conducting material).

Claim Rejections - 35 USC § 103

5. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosako et al. (WO 03/081707) as applied to claims 3, 4, 8, 9 above, and further in view of Smotkin (US 2002/0009627).

Regarding claim 5, Kosako discloses a polymer electrolyte membrane for a fuel cell as recited in paragraph above. However, Kosako does not disclose a fuel cell that utilizes methanol or methanol water mixture as a fuel.

Smotkin discloses the utilization of methanol as a fuel for a fuel cell. See figure 1. Therefore, it would have been obvious to one of ordinary skill in the art to utilize methanol as a fuel with the fuel cell of Kosako because Smotkin teaches that methanol can be used as a fuel for a fuel cell without utilization of a reformer to convert the fuel to a hydrogen-rich fuel gas. See paragraph 5.

Regarding claim 6, Kosako teaches that air (atmospheric oxygen) is utilized as an oxidant gas in a fuel cell. See paragraph 2.

Regarding claim 7, Kosako discloses a polymer electrolyte membrane for a fuel cell as recited in paragraph above. However, Kosako does not disclose a fuel cell that comprises a free cathode compartment.

Smotkin discloses a MEA fuel cell comprising a graphite flow field region (free cathode compartment). See figure 1. In this region the water is expound from the fuel cell. See figure 1. Therefore, it would have been obvious to one of ordinary skill in the art to utilize the graphite flow field region with the MEA fuel cell of Kosako because Smotkin teaches that water is expelled in effort not to flood the fuel cell.

Response to Arguments

6. Applicant's arguments filed July 16, 2008, have been fully considered but they are not persuasive. *Applicant's principle arguments are:*

a) Claim 2 was indicated to contain allowable subject matter, "the catalyst layer of the cathode bounds directly on the free cathode compartment." The allowable subject matter in claim 2 was revised and inserted into the method claim 4.

7. In response to Applicant's arguments, please consider the following comments.

a) Kosako discloses a diffusion layer that engages directly against the membrane, a catalyst layer bonded to the diffusion layer, and bonding a separator (cathode free compartment) to form a fuel cell. See figure 8 and 12b. It is the position

of the examiner that the cathode free compartment disclosed by the Applicant, can be a separator for the introduction of reactants and removal of products from the fuel cell.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYANT SUITTE whose telephone number is (571)270-3961. The examiner can normally be reached on Mon-Fri 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BS

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795